

ABSTRACT

A method for creating sensory experiences operates by scanning the acoustical signal across the human neural cortex to create the desired sensory perceptions. The acoustic signal is scanned in a predetermined pattern. The pattern is then modified to fill in spaces in the predetermined pattern so that over a short time period, the desired signal is scanned across the intended region of the neural cortex. In one exemplary embodiment, the pattern begins with an array of points on the cortex. Thus, an acoustic signal in an array of points is directed towards the cortex. The acoustic pattern is then shaped to expand in radius about each point. Thus, the acoustic signal scans the visual cortex in an array of expanding circles. Varying the signal at each point along the radius as it expands produces neural firing differences in the neural tissue. When the circles expand to where they begin to touch, the pattern changes to fill in the areas between the original array of points. The new circles are centered about the points between the original stimulation locations, and the acoustic signal contracts about these new centers. The signal continues to contract about the new center points. When the new circles have contracted to an array of points, the process can be repeated from the start or simply reversed. Another method operates by forming concentric circles and expanding and contracting each of the concentric circles to fill in the original spaces between the concentric circles.